"The best-case scenario is that toxics are never released into the environment . . . the next-best is that they are always dealt with promptly and competently. This department is working towards both those objectives."

— Edwin F. Lowry
Director, Department of
Toxic Substances Control

The Department of Toxic Substances Control (DTSC) enters 2001 not only as part of the Cal/EPA family of environmental protection agencies, but also as part of a family finally brought together to interact and work in a single new building with a common mission.

The Early Years

The DTSC that exists today as a mature and multi-focused agency with 1100 staff located in Sacramento and six field offices throughout California, had a humble beginning in the early '70s. It started with four staff in a Unit of the Vector and Waste Management Branch within the Department of Health Services:

- At that time, national attention to the adverse effects of mismanagement of hazardous waste was just beginning to stir. This was the time of the first Earth Day celebration and the creation of the U.S. Environmental Protection Agency in December of 1970.
- News of Love Canal in New York State would soon break with residents discovering that they had been living in houses built on a former hazardous waste site.

While interest in hazardous waste was developing throughout the nation, California was not sitting still on the hazardous waste management front.

1972 saw the passage of the Hazardous Waste Control Act that established the California Hazardous Waste Control Program within DHS. California's hazardous waste regulatory effort became the model for the federal Resource Conservation and Recovery Act (RCRA). California's program, however, was broader and more comprehensive than the federal system, regulating wastes and activities not covered by the federal program. The drafters of the early RCRA program, intended to provide a "floor" of regulation with the knowledge and expectation that states like California would enact more comprehensive waste management requirements in order to address their own regional or state needs.

California's Hazardous Waste Control Law was followed by emergency regulations in 1973 that clarified and defined the hazardous waste program:

- Included were definitions of what was a waste and what was hazardous as well as what was necessary for appropriate handling, processing and disposal of hazardous and extremely hazardous waste in a manner that would protect the public, livestock, and wildlife from hazards to health and safety.
- The early regulations also established a tracking system for the handling and transportation of hazardous waste from the point of waste generation to the point of ultimate disposition, as well as a system of fees to cover the costs of operating the hazardous waste management program.
- Advancing the newly developing awareness of hazardous waste management issues, the program established a technical reference center, for public and private use, dealing with all aspects of hazardous waste management.

The regulations were adopted as final the following year.

It did not take long for the scope of hazardous waste regulatory responsibility to exceed the staffing resources of a four person Unit.

Budget limitations in the new program quickly became apparent.

One of the early tasks for the program was to survey existing hazardous waste generators in order to determine the need for new or expanded facilities to meet future waste management demands. This was an ambitious undertaking in that there were nearly 10,000 large waste generators in California that produced nearly 5 million tons (or 400,000,000 gallons) of hazardous waste annually. Included in these waste streams were some 22,000 different substances. Dr. Harvey Collins was in charge of the program at that time and recalled in a letter some years later:

> *"Let me state that our first budget was for a staff of four persons that included professional people as well as clerical people… It was not until several years later that we had grown to a section, we had sort of grown geometrically"*

As the public began to rank environmental concerns near the top of all public policy issues, funding gradually became easier to obtain and publicity increased.

Hazardous Waste Site Cleanup

Along with the Hazardous Waste Control Program's responsibility to regulate the generation, treatment, storage and disposal of hazardous waste came the reality that prospective regulation was not enough. Years of mismanagement of facilities had resulted in abandoned waste sites where hazardous waste had simply been left behind. The number, nature and location of abandoned hazardous waste sites was unknown. An adequate search for such sites had never been conducted.

Ironically, because California had regulated discharges from industrial sources and disposal operations since 1949 under early water pollution control laws and later under the State Water Quality Control Act, it was anticipated that there would be relatively fewer problems associated with abandoned sites than existed in other states. The existing regulatory structure, along with the fact that California did not have the eastern "old industry" that had waste handling practices associated from the beginning of the industrial revolution, led some to believe that California's problems would be of a small scale. This would not be the case.

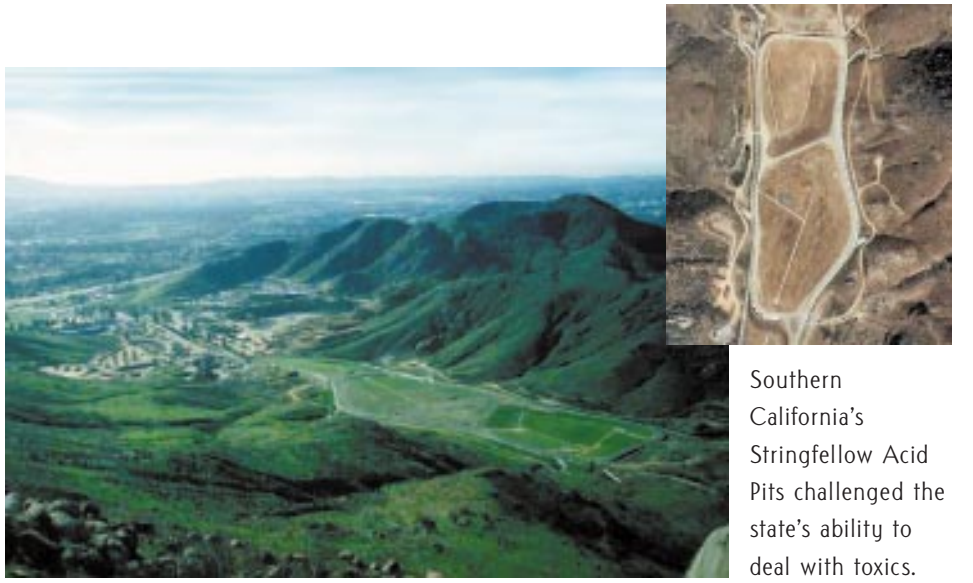
By 1978, the program had grown to 70 staff. The Unit was elevated to Section status within DHS. The increase in resources was timely in that the next major effort was to conduct a three-phase investigation of abandoned chemical waste sites in California. What began as a document review of a few industrialized California counties quickly grew to cover the entire state with technical studies to provide the basis for formal site evaluations and recommendations for corrective or legal action.

Approximately 25,000 potential sites were identified in the 30 most populated, highly industrialized California counties. Approximately 20,000 of these sites were determined to have no contamination. The remaining 5,000 sites were systematically investigated by the Abandoned Site Program (ASP) and have formed the core list of sites toward which the department focuses it's efforts.

The '8Os: A Decade of Program Growth

An explosion of environmental legislation marked the second decade of the Hazardous Waste Control Program. Legislative sessions were now introducing in excess of 400 hazardous waste related bills per session. New authorities and funding resulted in staffing increases as well as elevation of the program within the DHS structure. During 1980, the Hazardous Materials Management Section had been elevated to Branch status and, in 1981, the Branch was reorganized creating the Toxic Substances Control Program (TSCP).

One of the most important bills signed in 1980 was AB 3132 (Egeland) which increased the penalty for unauthorized intentional or negligent hazardous waste disposal from a flat $25,000 per violation to $25,000 per day of violation. This measure recognized the reality that environmental damage often increased with each successive day the violation occurred. AB 3132 also created new types of violations and new civil penalties for illegal activities involving hazardous waste. In addition, the measure carried, for the first time a state prison sentence of up to two years and fines of up to $50,000 for repeat offenses.



Southern California's Stringfellow Acid Pits challenged the state's ability to deal with toxics.

The Carpenter-Presley-Tanner Hazardous Waste Substances Account Act of 1981 created the Hazardous Substance Account and established a fee schedule on the land disposal of hazardous waste to cover the costs of remedial activities (site cleanup) and associated administrative costs, hazardous substance response equipment, health effects studies, and the expenses of the Hazardous Waste Cleanup Arbitration Panel.

In 1982, the Legislature created the TSCP Site Mitigation Program to complement the federal Superfund hazardous waste cleanup program. The goal of the site mitigation program was to identify and cleanup California sites where an uncontrolled release of hazardous substances had occurred.

During the 1984 statewide elections, an initiative was placed on the ballot to provide money to investigate and cleanup abandoned toxic waste sites. Formally known as the Hazardous Substances Cleanup Bond Act of 1984 or the California Superfund Act, it was listed on the ballot as Proposition 27. The initiative was approved by the voters by a 3 to 1 margin, and provided for the issuance and sale of $100,000,000 of general obligation bonds. The funds generated from the sale of the bonds were used over the following several years for site cleanups.

From 1986 to 1988, the Program experienced significant growth, with staff increasing from 272 to 833 statewide, and annual funding increasing from $59.5 million to $103 million. These increases reflected the heightened public awareness of the issues surrounding hazardous substances and the California Legislature's eager response to protect public health and the environment.

One of the more prominent contributing factors to the heightening of public awareness during the 80s was the Stringfellow Acid Pits hazardous waste site. The Stringfellow site consists of 17 acres of canyon in the Jurupa Mountains of Riverside County, about one mile north of the community of Glen Avon. During the site's operation as a hazardous waste disposal facility (1956-1972), it is estimated that 34,000,000 gallons of industrial

waste were disposed. In 1982, interim remedial activities were conducted at the site that included removal of liquid wastes, neutralization, capping, and installation of a subsurface barrier dam and leachate extraction system. Despite these efforts, in 1983 it was determined that the site was leaking. TSCP took the lead for cleanup activities. Although surface liquid wastes had been removed, a large volume of soil contaminated with spent acids, organic wastes and heavy metals remained on site. Ground water was contaminated with solvents and heavy metals.

The Office of Military Facilities

In 1988, a significant environmental challenge would dawn on the horizon for California. During that year, the first of 22 major military base closures were announced by the Federal government. The 1988 announcement was the first of three rounds of base closures, which would continue through 1993.

California had more military facilities slated for closure than any other state in the nation. It was estimated that, when the base closures were completed, California's economy would be reduced by $7 billion annually in addition to a loss of over 200,000 jobs. Faced with this impending economic loss, attention was focused on quickly converting closed bases to reuse that would benefit the local economies.

Standing in the way of immediate transfer was the reality that hazardous waste cleanup would be necessary before these sites could be transferred to local government because many of the sites were listed on the state and the federal government's Superfund lists.

To coordinate the closing base cleanups around the state and to ensure that cleanups were complete before transfer to local entities, DTSC created the Office of Military Facilities (OMF) in 1993. OMF's main task was to oversee the investigation and cleanup of hazardous waste substances at more than 100 operating and closing military bases and former defense sites in California. An Executive Order by the governor provided OMF with the responsibility for coordinating all environmental work by California State agencies at closing military bases.

Hazardous Waste Facility Permitting

TSCP's facility Permitting program was mandated by AB 1593 (Lockyer) in 1977 and took effect in 1978. At that time, it was estimated that there were 1,300 major facilities in the state and as many as 6,000 small operations that would need to be permitted. From its inception, the Permitting program was designed to protect public health and the environment through the issuance of operating permits for facilities which treat, store, or dispose of hazardous wastes. The permit program provided a mechanism for in-depth inspections and a permit review of each hazardous waste facility at least every ten years.

Early '7Os municipal landfill dumping.

Improper disposal of hazardous wastes.

Staff gathers samples from site of illegal railroad dumping.

Surveillance and Enforcement

The Surveillance and Enforcement (S&E) program, established in 1976, by 1981, had grown to twenty-two inspectors from its initial field staff of six. Inspectors monitored facilities that generated, transported, treated, stored or disposed of hazardous wastes.

The purpose of field inspections and enforcement was simple: to ensure that hazardous waste generators, transporters and facility operators were complying with the laws and regulations. In a state as large and economically diverse as California, this proved to be an enormous undertaking. When the program began to take shape, it was estimated that the regulated community included 6,500 major generators, 440 waste transporters, 1,300 major on-site treatment, storage and disposal facilities, and 67 landfills.

S&E field investigations quickly revealed law violations. These included:

- dumping by hazardous waste truckers at unauthorized disposal sites;
- acceptance of hazardous wastes by operators not authorized to receive such wastes:
- unauthorized disposal on land owned by generators of the wastes, and
- careless procedures by generators, truckers and facility operators in the areas of storage, and disposal.

The early years of the program revealed that legal authorities needed to be strengthened and that definitive penalties for failure to comply with hazardous waste management laws and regulations were needed to serve as effective deterrents. AB 1593, (Lockyer) which established the Permitting Program, also gave TSCP clear inspection authority, including the right to enter and inspect hazardous waste facilities, collect and test waste samples, and to audit and review records required to be kept by facility operators. Thus began a period of strengthening hazardous waste management laws and regulations, lasting well into the '80s.

Significant Legislation of the '80s

AB 2408 (Tanner), expanded enforcement of hazardous waste regulations by granting city attorneys as well as district attorneys the right to prosecute violations of regulations. The legislation allowed penalties collected for violations to be used to pay local costs in prosecution and to offset local expenses for administering hazardous waste regulations.

AB 2700 (McCarthy), eliminated loopholes that had allowed industry to escape responsibility for cleaning up discharges. The amendment specified that both TSCP and the Regional Water Quality Control Board (RWQCB) could take immediate action ordering cleanup, with the right to obtain reimbursement later from the party found responsible.

SB 1465 (Garamendi), eliminated loopholes that had encouraged firms to cover up illegal hazardous waste practices by creating civil penalties of up to $25,000 for filing false reports or willfully withholding information from environmental regulators. Penalties of up to $5,000 per day also could be assessed for filing false or failing to file required chemical monitoring reports.

AB 2823 (Berman), requireed reporting to the State Office of Emergency Services all spills of hazardous materials, including those which would not otherwise be subject to regulation by either RWQCB or TSCP. Violations carried possible misdemeanor convictions and up to $20,000 in fines.

The '90s: The California Environmental Protection Agency and the Department of Toxic Substances Control Created

During the '90s major organizational changes took place within California's environmental regulatory programs. With the Governor's Reorganization Plan, the California Environmental Protection Agency (Cal/EPA) (July 17, 1991) was created. Under this order, the Toxic Substances Control Program under DHS became the new Department of Toxic Substance Control (DTSC).

The following decade saw a new focus for DTSC. While the early years established standards, performance expectations and an infrastructure for enforcing against hazardous waste law violators, the new department began to seek ways to be more innovative in accomplishing its mission. While the '70s and '80s were directed toward controlling waste once it had already been created the task for the '90s and beyond was to find new and better ways to reduce the creation of waste.

Pollution prevention and waste reduction began to re-emerge as a primary goal of regulatory agencies. The best available science in technical decision making processes began to take the place of some practices that were based on older scientific literature. Marketing incentives to develop and implement alternative environmental protection approaches became a new way of encouraging technical improvements. The development of graduated standards based on health risk for facility permitting, regulatory requirements and hazardous waste site cleanups all became areas of concentration for DTSC.

While DTSC's Site Mitigation Program continues to clean up sites identified during the Abandoned Site Program, it became apparent that there were many smaller, less contaminated sites that might not ever rise to the priority of larger sites. Historically, that meant that limited staff resources for oversight of cleanups had to go to the higher priority sites. This left many sites that might have easily been cleaned up and returned to beneficial use without needed department oversight and certification. To meet this need, the Voluntary Cleanup Agreement (VCA) Program was created. This program provided additional staff resources on a pay as you go basis. As long as there were responsible parties willing to pay oversight costs, additional staff could be hired to oversee and certify lower risk cleanups.

California's high environmental standards are also fostering the most advanced environmental technology, a technology industry that could partner with DTSC for the benefit of California's environment and economy. Based upon that vision, DTSC established one of the first environmental technology certification programs in the nation to better protect the environment while creating jobs. An environmental technology certification program was later implemented by all Cal/EPA environmental programs. It soon received the Innovations in Government Award from Harvard University for demonstrating that environmental protection and economic growth can co-exist. Bill Soo Hoo, first director of the Department of Toxic Substances Control describes that period:

> *"I believe the innovations and accomplishments during the early to mid 1990's are proof of the outstanding abilities of the men and women of DTSC. They were clearly inspired, not only inspired by their vision for a cleaner, healthier California but by the real opportunity in DTSC to leave the world a better place for our children."*

The 90s defined the transition from a "command and control" form of environmental regulation to include the concept of "compliance assistance". In the Hazardous Waste Management Program, DTSC developed the first Environmental Compliance School as an alternative to fines and penalties, believing it is compliance that protects the environment:

- DTSC also established a Consultative Services and Permit Application Assistance Program, and implemented Tiered Permitting as a model for national permit reform;
- DTSC also developed California's first computer software for one-stop state environmental permit applications at the Los Angeles Permit Assistance Center.

15,000 drums of illegally stored hazardous waste prior to explosion.

Approximately 15,000 illegally stored drums of hazardous waste explode in Southern California in the fall of 1989.

While program improvements marked the late '80s and early '90s, one of the most significant changes in hazardous waste management came as a result of the economic downturn in California during that period. Funding for DTSC's programs had been almost entirely through fees paid by the regulated industries. Since economic growth and production was down, fees were also down. In addition, several bills were introduced into the Legislature to "ease the regulatory burden" on an already depressed industry and economy by reducing fees even further. By the mid '90s, DTSC had, for the first time seen a turn around from its early rapid growth and began to experience significant program reductions.

Beginning in 1995, DTSC turned its attention toward establishing a stable funding base that would not tie environmental protection capability solely to the level and amount of fees that could be generated from fees. Jesse R. Huff, Director from 1995-1999 recalls from that time:

> *I came to the Department of Toxic Substances Control at the request of the Wilson Administration in February 1995, leaving the Integrated Waste Management Board. Possibly due to California's economic struggles, DTSC was seen by the Administration as seriously challenged. My reward was being able to participate in and advance the work of DTSC. It was my first experience as serving as Director of a "line" department and I thoroughly enjoyed my four years at "Toxics." I believe that during that time DTSC grew in maturity and stature. I believe that growth arose from the talents and abilities of the people of DTSC, but I do like to think that I facilitated it and protected it.*

The 21st Century

Today, DTSC continues a tradition of responsible and balanced regulation of California's hazardous waste control laws. Through a combination of fair and firm enforcement and compliance assistance, DTSC is providing the citizens of California a high degree of environmental protection and significant improvements in our environment. There is no question that hazardous waste facilities are cleaner and safer today than they were when this program began:

- Generators and transporters of hazardous waste operate today with better knowledge, practices and responsibility than ever before;
- Abandoned hazardous waste sites are being cleaned up in greater numbers every year and:
- With the implementation of the Administration's Brownfields Cleanup Program, more and more contaminated properties that might otherwise lie fallow will be cleaned up and returned to beneficial and safe use.

While benefits are numerous, there is still much more to do to protect and enhance our environment:

Pollution prevention or reducing waste before it is created is the way of the future:

Environmental Management Systems for industry place a high emphasis on responsible environmental behavior or stewardship for businesses and industry.

Though there is much more to be accomplished, the staff of DTSC has a well-deserved reputation for leadership in its field. That tradition will continue through the new century.

"Both of my predecessors have mentioned the quality and commitment of the DTSC staff that they saw during their tenure. I couldn't agree more. I had the pleasure of working with many DTSC staff prior to accepting Governor Davis' appointment as Director of DTSC and my experience over the last two years has enhanced my appreciation of their talent and professional approach to environmental protection. Much has happened since this organization started out as a four-person unit in the Department of Health Services. Over the years, staff has seen resources grow from meager to plentiful to strained and now we are again seeing steady improvements in meeting our resource needs. We will always recognize the need for strong and fair enforcement where people would choose to ignore their legal obligations. In addition, we will continue to foster compliance through regulatory assistance and training. During the past year, the Legislature has selected DTSC to oversee environmental reviews for all newly proposed school construction sites. This is a responsibility we accept with great appreciation of the need to provide our children a safe and healthy learning environment. We have entered the 21st Century with a commitment to continued excellence and to strive to utilize our resources in the most environmentally beneficial manner possible. I have no doubt that we will succeed."

— Edwin Lowry, Director